

**DRAFT
SITE ASSESSMENT REPORT
DETROIT COLD ROLLING
GIBRALTAR, WAYNE COUNTY, MICHIGAN**

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Emergency Response Branch
Region V
9311 Groh Road
Grosse Ile, Michigan 48138

Prepared by

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Alex Clark
WESTON START Project Manager

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LIST OF ABBREVIATIONS AND ACRONYMS

°	Degrees	MDEQ	Michigan Department of Environmental Quality
°F	Degrees Fahrenheit		
”	Minutes	MI	Michigan
’	Seconds	NCP	National Oil and Hazardous Substances Pollution Contingency Plan
%	Percent	OSC	On-Scene Coordinator
ADP	Acid Dosing Pond	PAH	Poly Aromatic Hydrocarbon
AOC	Area of Concern	PCB	Polychlorinated Biphenyl
CFR	Code of Federal Regulations	ppm	part per million
DB	Disposable Bailer	RCRA	Resource Conservation and Recovery Act
DCR	Detroit Cold Rolling	SA	Site Assessment
DSC	Detroit Steel Company	SDP	Sludge Drying Pond
ED	Eckmann Dredge	START	Superfund Technical Assessment and Response Team
ESC	Environmental Strategies Corporation	S.U.	Standard Units
FOG	Fats, Oil, and Grease	SVOC	Semivolatile Organic Compounds
GSI	Groundwater-Surface Water Interface	TCLP	Toxicity Characteristics Leaching Procedure
H ₂ S	Hydrogen Sulfide	TDD	Technical Direction Document
HA	Hand Auger	TMP	Tandem Mill Pond
IMWP	Interim Measures Work Plan		
LEL	Lower Explosive Limit		

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TMS	Tandem Mill Sump
TOH	Total Organic Halides
TSCA	Toxic Substances Control Act
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
WESTON	Weston Solutions, Inc.

1. INTRODUCTION

In May 2007, the Michigan Department of Environmental Quality (MDEQ) requested assistance from the United States Environmental Protection Agency (U.S. EPA) Emergency Response Branch to address conditions that may pose an imminent and substantial threat to human health, welfare, or the environment related to the Tandem Mill Pond (TMP), Acid Dosing Pond (ADP), and Sludge Drying Pond (SDP) at the Detroit Cold Rolling (DCR) Site (Site), Gibraltar, Wayne County, Michigan. In June 2007, U.S. EPA On-Scene Coordinator (OSC) Brian Schlieger requested assistance from the Weston Solutions, Inc., (WESTON®) Superfund Technical Assessment and Response Team (START) to conduct a Site Assessment (SA) of the TMP, ADP, and SDP, and to prepare a SA report. WESTON conducted the SA under Technical Direction Document (TDD) S05-0002-0706-009 and in accordance with the *Sampling and Analysis Plan for the Detroit Cold Rolling (DCR) Tandem Mill Pond Site, Gibraltar, Wayne County, Michigan* (WESTON, June 2007). SA samples were analyzed under TDD S05-S05-0002-0706-010.

1.1 OBJECTIVES AND SCOPE OF THE SITE ASSESSMENT

The purpose of the SA was to document conditions related to the TMP, ADP, and SDP that may pose an imminent and substantial threat to human health, welfare, or the environment. Specific SA objectives were:

- Determine if pond sediment and sludge are Resource Conservation and Recovery Act (RCRA) hazardous waste;
- Document contaminant concentrations in pond sediment, sludge, and surface water that pose a risk to wildlife at the Site;
- Evaluate the potential for contaminants to migrate off the Site at concentrations that pose a risk to human health and the environment; and
- Evaluate the need for further site characterization, remediation, or removal.

WESTON START conducted the following tasks to accomplish the aforementioned objectives:

- Collected nine sediment samples from the ponds for laboratory analysis of polychlorinated biphenyls (PCB), semi-volatile organic compounds (SVOC), and Michigan 10 metals. A subset of the nine sediment samples (two samples) were also analyzed for total organic halides (TOH), volatile organic compounds (VOC), and selected waste characterization parameters;
- Collected one sludge sample near the TMP for laboratory analysis of PCBs, SVOCs, Michigan 10 metals, TOH, VOCs, and selected waste characterization parameters;
- Collected six surface water samples for laboratory analysis of PCBs, SVOCs, Michigan 10 metals, and pH;
- Photo documented the Site and the presence of wildlife in visibly contaminated areas; and
- Reviewed previously collected analytical data.

1.2 REPORT ORGANIZATION

This SA report is organized into the following sections:

- **Introduction:** A brief description of the objective and scope of the SA.
- **Site Background:** The Site description and history.
- **Environmental Investigation Activities:** Methods and procedures used during the SA.
- **Environmental Investigation Results:** Sampling analysis results.
- **Threats to Human Health and the Environment:** Identifies conditions that warrant a removal action under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).
- **Conclusions and Recommendations:** Summary of the SA findings and recommendations for further activities.
- **References:** References used in compiling the report.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

The DCR facility at the Site was constructed in the early 1950s and no longer maintains operations related to steel manufacturing. The Site is located at 28000 W. Jefferson Avenue in Gibraltar, Wayne County, Michigan (**Figure 1** in Appendix A). The DCR facility's Meridian coordinates are 42 degrees (°), 6 minutes (′), 300 seconds (″) north, 83°, 12′, 0″ west. The Site is bounded to the north by undeveloped land containing radio towers, to the east by W. Jefferson Avenue, to the south by a rail spur and Gibraltar Road, and to the west by two railroad lines. The Site is approximately 150 acres. The Frank and Poet Drain is within 800 feet west of the Site; the Trenton Channel and Lake Erie are approximately 1,500 feet east of the Site.

The 150-acre DCR facility consisted of a mill building to the north, wastewater treatment ponds in the central part, two fill areas (one to the northwest and one to the southeast), and a closed landfill to the southwest. The ponds included four water retention basins located immediately south and southwest of the mill building, the TMP (separated into four separate ponds) located south of the retention basins, the ADP located southwest of the TMP, and the SDP located southeast of TMP (**Figure 2** in Appendix A). The SA's focus was investigating contamination associated the TMP, SDP, and ADP.

2.2 SITE HISTORY

The following information was obtained from the *Revised Interim Response Activity Work Plan, Tandem Mill Pond, DSC, Ltd., Gibraltar, Michigan* (Environmental Strategies Corporation [ESC], August 2001) and the *DSC Ltd., Comprehensive Corrective Action and Remedial Consent Order with Michigan Department of Environmental Quality (MDEQ) and Michigan Department of Attorney General for Trenton and Gibraltar Facilities* (December 1999). Figures generated by ESC on behalf of Detroit Steel Company (DSC) that show the Site and previous investigation features are provided in **Appendix B**.

Regulatory History

The Site contained steel finishing operations, including annealing, pickling, and cold rolling processes. The Site was the McLouth Steel Products Company's Gibraltar Plant, which ceased operations in August 1996, when DSC acquired it. On July 11, 1996, a bankruptcy proceeding resulted in the sale of McLouth's assets to Hamlin Holding, Inc. MDEQ filed a claim against the McLouth Estate with respect to environmental conditions existing as of 1996 and was provided with information pertaining to DSC's proposed purchase of assets from McLouth. The closing on the sale of McLouth assets took place on August 14, 1996, and assets were transferred to DSC.

Areas of Concern (AOC), defined as any area where a contaminant release or threat of release has occurred, had been identified at the Site by MDEQ (referred to as Areas of Interest in **Appendix B**).

DSC conducted environmental investigations beginning in 1997 to address the identified AOCs at the Site. MDEQ determined contaminants had been released to the environment at the Site (mostly prior to DSC's acquisition of the Site) and there was a potential for future release of contaminants. Further, MDEQ determined DSC became the Site owner/operator after June 5, 1995 and did not complete a Baseline Environmental Assessment within 45 days of purchasing the Site, and, therefore, is legally liable for hazardous substance releases or threats of releases to the environment.

A Consent Order was finalized between DSC, MDEQ, and the Michigan Department of the Attorney General in December 1999 which included (but was not limited to) the following stipulations. DSC was instructed to:

- Implement work pursuant to Part 201, Environmental Remediation of the Natural Resources and Environmental Protection Act at the AOCs consistent with the MDEQ Operational Memoranda. The work was to include investigation and evaluation of remedial measures through completion of remedial action plans.
- Submit a quality assurance project plan and health and safety plan to MDEQ within 60 days of the effective date of the Consent Order.

- Submit interim measures work plans (IMWP) and implement the work to address exposure of migratory birds to floating oil in the TMP. This was a continuation of measures required by a June 22, 1999, U.S. EPA Unilateral Administrative Order pursuant to Section 7003 of RCRA.
- Notify MDEQ of and mitigate conditions other than those addressed in the IMWPs that pose an imminent or substantial threat to human health or the environment including, but not limited to, direct contact hazards and/or fire or explosion hazards.
- Notify MDEQ if additional AOCs are identified during the course of implementing the Consent Order.
- Create a trust fund for disbursement of funds for corrective action and response activities.

In June 2001, limited operations resumed. During the interim, DSC performed maintenance and limited environmental cleanup at the Site. As of December 2002, DSC's ability to address most of the AOCs had been severely limited by financial constraints.

Operational History

At the time the DCR facility was built, the six-acre TMP was excavated to ten feet into native clay for the purpose of separating oil in process water. Historically, the TMP received cooling water and process waters from the mill building, as well as leachate from the closed landfill and water from basement sumps. The process oils included lubricating, hydraulic, rolling, and slushing oils made from both petroleum and animal-derived materials. The leachate flow was re-routed and no longer enters the TMP.

Acid from the ADP was added to the TMP to separate oil from the water and to break any emulsions. As a result, the pH of the TMP was approximately 3 standard units (S.U.). Oil was then skimmed from the TMP and disposed of off site. Effluent from the TMP was pumped out for further treatment prior to discharge into the Frank and Poet Drain (**Figure 2** in Appendix A).

The composition of the non-aqueous materials in the TMP included primarily free-floating oil and rag. The free-floating oil appeared as a light oil sheen, whereas the rag appeared as a congealed emulsion of animal oils and fats, sediment, and water. The rag was denser, tending to accumulate on the bottom of the TMP during colder months and rising in warmer months. The soils on the banks of the TMP had also adsorbed some oil. In 1997, approximately 300,000 gallons of free-floating oil and rag material was removed using recovery booms. In 1998, the booms were reconfigured, and by May 1999, approximately 57,500 gallons were removed, with the remaining 4,800 gallons removed by June 1999.

DSC implemented an oil management program, including eliminating oil discharges from the Tandem Mill Sump (TMS). On July 6, 1999, oil was detected in the TMS due to an accidental release during equipment maintenance. The oil capacity of the TMS was exceeded, and the overflow oil was discharged to the TMP. Approximately 3,100 gallons of oil were recovered by vacuum skimming.

The automatic discharges from the basement sumps were ceased in August 1999. The water from the basement sumps was then pumped into a vacuum truck and discharged into an oil/water separator tank. The water from the oil/water separator was drained into the TMP while the oil was disposed of off site.

In 2000, DSC began to dewater the TMP in an effort to close the TMP per the *Comprehensive Corrective Action and Remedial Consent Order* (MDEQ, 1999). By spring 2001, sediment on the western side of the TMP was exposed. The sediment was consolidated on the western side. However, instead of up to one foot of sediment and clay being removed, up to four feet of sediment was removed to ensure there was no mixing of contaminated and clean soils. This affected the sediment aerating process, making it infeasible to continue. Sediment removal and pond closure ceased.

2.3 SUMMARY OF PREVIOUS INVESTIGATIONS

The following information was obtained from the *Revised Interim Response Activity Work Plan, Tandem Mill Pond, DSC, Ltd., Gibraltar, Michigan* (ESC, August 2001).

In July and August 1997, eleven groundwater monitoring wells were installed, including three in close proximity of the TMP, as well as five soil borings advanced near the perimeter of TMP. According to ESC, the soil boring logs confirmed that the TMP was excavated through the surficial fill into the underlying lacustrine clay layer. The surficial fill was reportedly eight to 12 feet in thickness around the TMP. The underlying clay layer was reportedly 18 to 35 feet in thickness, with limestone bedrock underlying the clay. Groundwater was observed at the lacustrine clay/limestone bedrock interface. Monitored groundwater elevations reportedly confirmed the groundwater is confined by clay. The maximum depth of the TMP is reported to be 13 feet below the ground surface (bgs), indicating the presence of at least 20 feet of clay between the base of the TMP and the underlying bedrock and aquifer.

Shallow perched water was also observed on the Site above the clay layer. Water in the TMP is connected with the perched water layer, and may be the primary source of water in the perched zone. This layer is approximately 10 feet thick. There is a potential for a vertical gradient towards the bedrock aquifer.

Three groundwater samples were collected in August 1997 from the monitoring wells near the TMP. Only one shallow sample, from well GMW4 (**Appendix B**), had detections that exceeded the Part 201 groundwater-surface water interface (GSI) criteria. The analytes that exceeded these criteria were 2,4-dimethylphenol, phenol, and copper. Ammonia was also detected. GMW4 is located along the southern edge of the TMP, and the sample was collected from the shallow, perched water. According to the ESC report, there were also GSI exceedances of phenol and 2,4-dimethylphenol from the GMW7 well, which may be attributed to leachate from the landfill. GMW7 is a bedrock

monitoring well and is located between the TMP and the landfill on the west side of the Site. ESC also indicated the contaminant detections in the GMW7 may have been the result of downward migration during soil boring advancement/well construction and were mitigated once a proper well seal was constructed. However, no subsequent well sampling was performed.

In December 1997, an assessment of the TMP was performed to evaluate closure options. At that time, the depth of the water was 6.5 to 13 feet, and only rag material was present on the bottom of the TMP, underlain by dense clay. There was reportedly no sludge or sediment observed on the bottom of the pond.

Two composite samples of the submerged rag from the TMP were collected for analysis. The samples were analyzed for VOCs; SVOCs; PCBs; metals; and total fats, oil, and grease (FOG). Detections of SVOCs (including phenol and 2,4-dimethylphenol) and metals (arsenic, copper, and zinc) exceeded GSI protection criteria. The samples contained FOG concentrations as high as 75 percent. However, it was not determined whether the FOG content was comprised primarily of animal and vegetable FOG or petroleum products. No detections of VOCs or PCBs were indicated. The two samples were composited into one sample and also analyzed for toxicity characteristic leaching procedures (TCLP) metals. The composite sample results did not exceed the RCRA limits. In April 2001, one composite sample of the sediment and clay at the base of the TMP was collected and analyzed for SVOCs. Detections of fluoranthene, fluorene, and naphthalene exceeded GSI protection criteria, and phenanthrene exceeded GSI protection and soil volatilization to ambient air criteria.

3. ENVIRONMENTAL INVESTIGATION ACTIVITIES

On June 20 and 21, 2007, U.S. EPA and WESTON START conducted SA activities. The primary focus of the SA was the TMP, ADP, and SDP. U.S. EPA obtained access to the Site from the existing property owner prior to initiation of the SA. On-site personnel included OSC Brian Schlieger, OSC James Justice (June 20, 2007, only), and WESTON START representatives Alexandra Clark and Ryan Green (June 20, 2007, only). In addition, MDEQ representative Edward Novak also visited the Site on June 20, 2007, as well as representatives from the U.S. Fish and Wildlife Service.

SA activities included collecting sediment, sludge, and surface water samples for laboratory analyses; and maintaining photographic and written documentation during SA activities. A detailed summary of the SA activities is provided below.

3.1 SITE CONDITIONS

General Site Conditions

The entrance to the Site is located on the east side of the Site and faces W. Jefferson Avenue (**Figure 2** in Appendix A). The Site's entrance is gated with a posted security guard. WESTON START observed a chain-link fence surrounding the eastern and northern perimeter of the Site. Vegetation covers the fencing on the eastern perimeter of the Site. WESTON START did not inspect the southern and western perimeters of the Site as the focus was the TMP, ADP, and SDP.

The DCR facility buildings are located on the northern portion of the Site and appear to be mostly intact (from the outside). U.S. EPA and WESTON START did not enter the DCR facility buildings as the SA's focus was the TMP, ADP, and SDP. Two small outbuildings/trailers are located between the DCR facility buildings and the ponds.

Pond Conditions

Several ponds are located south of the DCR facility. Three retention basins are located immediately to the south of the DCR facility that serve as leachate collection ponds for the landfills to the west of the TMP (**Figure 2** in Appendix A). The TMP is located south of the three leachate collection ponds and was observed to be sectioned into at least four smaller ponds. Each section of the TMP is divided by soil and gravel berms with overgrown vegetation along most berms. The OSC labeled the four TMP sections one through four, as shown on **Figure 2**. Two larger ponds, the ADP and SDP, are located south of the TMP. WESTON START observed an area of oily sludge located south of TMP#2. The sludge is suspected to be dredge spoils from previous TMP dredging activities. Representative photographs of the sludge are provided in **Appendix C**.

WESTON START observed standing water in each of the ponds. Water depths ranged from approximately six inches (SDP) to 15 feet (TMP#4) during sampling activities. Sediment depths (thickness) ranged from approximately three to seven feet in the ADP and SDP, but were not recorded for the TMP.

An oily sheen (and oil globules in TMP#1 and TMP#2) rises to the water surface when the sediment in each pond is disturbed. WESTON START also observed a hydrocarbon odor when sediment in each pond was disturbed and when accessing TMP#1 and TMP#2 prior to disturbing the sediment. WESTON START observed a sulfur odor when sediment was retrieved from TMP#3.

Wildlife including birds, fish, and muskrats were observed in and around the TMP, ADP, and SDP. WESTON START observed animal tracks (suspected deer tracks) in the sludge located south of TMP#2. A propane cannon is situated on northern berm of TMP#2 to deter birds and wildlife from entering the area. The cannon routinely delivers several loud blasts.

3.2 FIELD SCREENING

Head Space Screening

WESTON START collected visibly contaminated sediment and sludge into one-gallon plastic bags to assess the concentrations of VOCs and hydrogen sulfide (H₂S) as well as the explosivity of the material. Once bagged, sediment and sludge were allowed to heat and volatilize for a period ranging from one to four hours. WESTON START tore a small hole in the bags, inserted the probe of the MultiRAE, and recorded the readings. The following table provides a summary of the head space readings collected during the SA.

Summary of Head Space Readings			
Location/Material	VOCs (ppm)	H₂S (ppm)	LEL (%)
Sludge from sludge pile	1.7	0	0
Sediment from SDP	8.7	0	0
Sediment from TMP#1	22	10	0

% – Percent

H₂S – Hydrogen Sulfide

LEL – Lower Explosive Limit

ppm – Parts Per Million

SDP – Sludge Drying Pond

TMP#1 – Tandem Mill Pond #1

VOC – Volatile Organic Compound

3.3 SAMPLING ACTIVITIES

Sediment Sampling

OSC Schlieger and WESTON START collected sediment samples using a variety of methods, dependent upon water depth. Sediment was collected from multiple areas of each pond and composited in a five-gallon bucket. WESTON START lined the five-gallon bucket with a garbage bag that was changed between sampling stations. Sediment was generally collected from the top six inches to one foot of sediment surface, depending on the sampling method used. The sediment was homogenized using disposable scoops once a sufficient sample volume was collected. WESTON START collected the homogenized sediment into laboratory-supplied containers and labeled sample jars accordingly.

The following table summarizes the sample collection method, number of samples, and sample analyses for each pond.

Summary of Sediment Sample Locations				
Pond	Sampling Method	Samples ¹ (Stations)	Sample Identifiers	Laboratory Analyses
TMP#1	ED	1	DCR-SD-TMP1-01-062107	PCBs, MI 10 Metals, SVOCs, VOCs, TOH, TCLP metals
TMP#2	ED	1	DCR-SD-TMP2-01-062107	PCBs, MI 10 Metals, SVOCs, VOCs, TOH, TCLP SVOCs
TMP#3	ED	1	DCR-SD-TMP3-01-062107	PCBs, MI 10 Metals, SVOCs
TMP#4	ED/DB	2	DCR-SD-TMP4-01-062007 DCR-SD-TMP4-02-062007	PCBs, MI 10 Metals, SVOCs, PCBs
ADP	ED/HA	2	DCR-SD-AD-01-062007 DCR-SD-AD-02-062007	PCBs, MI 10 Metals, SVOCs, TCLP metals (AD-01), TCLP SVOCs (AD-02)
SDP	HA/ DB	2	DCR-SD-SD-01-062007 DCR-SD-SD-02-062007	PCBs, MI 10 Metals, SVOCs, TCLP metals and SVOCs (SD-02)

¹ One sediment sample (station) consisted of sediment collected from multiple areas within each pond.

ADP – Acid Dosing Pond

DB – Disposable Bailer

ED – Eckmann Dredge

HA – Hand Auger

MI – Michigan

PCB – Polychlorinated Biphenyl

SDP – Sludge Drying Pond

SVOC – Semivolatile Organic Compound

TCLP – Toxicity Characteristic Leaching Procedure

TMP#1 – Tandem Mill Pond #1

TMP#2 – Tandem Mill Pond #2

TMP#3 – Tandem Mill Pond #3

TMP#4 – Tandem Mill Pond #4

TOH – Total Organic Halides

As summarized above, two samples, one from the northern portion and one from the southern portion, were collected from TMP#4, the ADP, and the SDP. One duplicate sediment sample was also collected.

Surface Water Sampling

WESTON START collected one surface water sample from the approximate center of each pond for a total of six samples. WESTON START collected surface water samples from the SDP by donning waders and wading out approximately 20 feet from the eastern edge of the pond. Wading was

attempted in the ADP, but the sediment surface was too loose to safely proceed with this method. Therefore, surface water samples were collected during deployment of the inflatable zodiac boat for all ponds except for the SDP.

WESTON START used a dedicated, plastic or glass, non-preserved sampling container to gather surface water from each pond. Water was collected into the dedicated container from approximately one inch below the surface of the water column. Where possible, WESTON START incorporated the oily sheen on the water surface into the sample. The dedicated container was used to fill the sample jars for laboratory analysis of PCBs, Michigan 10 metals, SVOCs, and pH. A new dedicated container was used for each surface water sampling location. One duplicate surface water sample was also collected.

Sludge Sampling

OSC Schlieger collected oily sludge material into the lined five-gallon bucket used for sediment sampling. The sludge was gathered using a disposable plastic scoop. WESTON START and OSC Schlieger transferred the sludge from the bucket to the sample jars for laboratory analysis of PCBs, Michigan 10 metals, SVOCs, VOCs, TOH, and TCLP SVOCs.

All sediment, surface water, and sludge samples were placed on ice in coolers following sample collection and delivered to RTI Laboratories, Inc., in Livonia, Michigan on June 21, 2007, under chain of custody procedures.

4. ENVIRONMENTAL INVESTIGATION RESULTS

From June 20, 2007, to June 21, 2007, U.S. EPA and WESTON START collected nine sediment samples, six surface water samples, and one sludge sample. One duplicate sediment sample and one duplicate surface water sample were also collected. Sampling results are summarized in **Tables 1a through 1d, 2, 3, and 4** provided in **Appendix D**.

4.1 SEDIMENT AND SLUDGE SAMPLE RESULTS

Nine sediment samples and one sludge sample were collected and analyzed for PCBs, Michigan 10 Metals, and SVOCs. A subset of samples was analyzed for VOCs, TOH, and selected waste characterization parameters. At the request of the OSC, the sampling results for the total VOC, metals, and SVOC analyses were not compared to any regulatory criteria. The waste characterization results were compared to RCRA limits and the total PCB results were compared to Toxic Substances Control Act (TSCA) limits. The following table summarizes the contaminants detected in the sediment and sludge samples. A more detailed summary of the contaminants detected is provided in **Tables 1a through 1d, 2 and 3** in *Appendix D*.

Summary of Contaminants Detected in Sediment and Sludge Samples		
Sample ID	Location	Detected Contaminants
DCR-SD-TMP1-01-062107	TMP#1	Metals, PCBs, PAHs, VOCs, TOH, TCLP metals
DCR-SD-TMP2-01-062107	TMP#2	Metals, PCBs, PAHs, VOCs, TOH
DCR-SD-TMP3-01-062107	TMP#3	Metals, PAHs
DCR-SD-TMP4-01-062007	TMP#4	Metals
DCR-SD-TMP4-02-062007	TMP#4	Metals, PAHs
DCR-SD-AD-01-062007	ADP	Metals, phenols, TCLP metals
DCR-SD-AD-02-062007	ADP	Metals
DCR-SD-SD-01-062007	SDP	Metals
DCR-SD-SD-02-062007	SDP	Metals, PCBs, phenols, TCLP metals
DCR-SLUDGE-01	Sludge Pile	Metals, PCBs, PAHs, VOCs, TOH, TCLP SVOCs

PAH – Polyaromatic Hydrocarbon
PCB – Polychlorinated Biphenyl
SDP – Sludge Drying Pond
SVOC – Semivolatile Organic Compound
TCLP – Toxicity Characteristic Leaching Procedure

TMP#1 – Tandem Mill Pond #1
TMP#2 – Tandem Mill Pond #2
TMP#3 – Tandem Mill Pond #3
TMP#4 – Tandem Mill Pond #4
TOH – Total Organic Halides

The detection limits for many of the SVOC results were significantly elevated due to the need to dilute the samples as there were high concentrations of non-target compounds in these samples. Therefore, there is likely SVOC contamination in these samples (DCR-SD-AD-02-062007, DCR-SD-SD-01-062007, and DCR-SD-TMP4-01-062007).

There were no detectable concentrations of TCLP SVOCs or metals that exceeded the respective RCRA limits. There were no detectable concentrations of PCBs that exceeded the TSCA limits.

4.2 SURFACE WATER SAMPLE RESULTS

Six surface water samples were collected and analyzed for PCBs, Michigan 10 Metals, SVOCs, and pH. A detailed summary of the contaminants detected in surface water samples is provided in **Table 4** in Appendix D. At the request of the OSC, the total SVOC and metals concentrations were not compared to any regulatory criteria. There were detectable concentrations of metals in every surface water sample collected, but there were no detectable concentrations of PCBs or SVOCs. The pH of surface water samples ranged from 7.4 to 8.5 S.U.

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Conditions present at the Site that warrant an appropriate removal action as set forth in 40 Code of Federal Regulations (CFR) 300.415(b)(2) of the NCP include:

- **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.**

Large, open ponds containing organic contaminants (in sediment) commonly associated with oil products, and containing metals (in sediment and surface water) are present at the Site. There were detectable concentrations of PCBs in sediment and sludge. Previous investigations indicated the FOG content of the TMP sediment as high as 75%. An oily sheen is present on many of the ponds and oil globules were observed migrating to the surface of the ponds from disturbed sediment. An oily sludge containing both organic and inorganic contaminants is present at the ground surface near TMP#2.

An open drain is located within approximately 800 feet of the ponds. Although evidence of trespassing was not observed during the SA, there is the potential for trespassing given the expanse of the Site and undeveloped nature of neighboring properties.

Wildlife (*e.g.*, birds and deer) continually traverse the Site. Wildlife can easily be exposed to contaminants in the oily sludge at the ground surface through dermal contact. Wildlife that uses vegetation near the ponds and sludge piles as a food source could be exposed to contaminants, including PCBs, that could then bioaccumulate in the food chain. Contamination could reach the Frank and Poet Drain through overland or shallow subsurface flow resulting in the release of contaminants to other surface water bodies. Trespassers could be exposed to contaminants at the surface, or physically harmed due to the open nature of the ponds.

- **Actual or potential contamination of drinking water supplies or sensitive ecosystems.**

Large, open ponds containing organic contaminants (in sediment) commonly associated with oil products, and containing metals (in sediment and surface water) are present at the Site. Previous investigations indicated SVOCs were detected in at least one deep monitoring well screened at the clay/bedrock interface.

Wildlife (*e.g.*, birds and deer) continually traverse the Site and an open drain is located within approximately 800 feet of the ponds. Lake Erie is located approximately 1,500 feet east of the facility.

Wildlife can be exposed to contaminants if the surface water in the ponds is used as a drinking water source. Due to the close proximity of the Frank and Poet Drain, contamination could reach the drain through overland, stormwater, or shallow subsurface flow resulting in the release of contaminants to other surface water bodies. Increased metals concentrations in local surface waters could have an extremely detrimental effect on aquatic biota, given their sensitivity to most metals. Deeper groundwater contamination, if present, resulting from the previous facility operations could migrate to bedrock and eventually to Lake Erie.

▪ **Weather conditions that may cause hazardous substances, pollutants, or contaminants to migrate or be released.**

Detroit, Michigan, receives an average yearly rainfall of 32 inches and an average yearly snowfall of 41 inches with temperatures that range from more than 90° Fahrenheit (°F) to less than 10° F.

Precipitation events could result in the overland or stormwater flow of contaminants from the sludge pile and ponds, or result in increased shallow subsurface migration of contaminants. Contaminant migration could reach other surface water bodies such as the Frank and Poet Drain and waters downstream from there.

Conversely, severe drought conditions could result in evaporation of the pond water, further exposing oily contamination on the bottom of the ponds.

6. CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

SA results (both analytical and empirical) confirmed that contamination is present in sediment, sludge, and surface water, and oil waste is present that could pose a significant threat to human health and the environment based on criteria defined at 40 CFR 300.415(b)(2)(i)-(viii).

6.2 RECOMMENDATIONS

Based on the information gathered during the Site Assessment, WESTON START recommends:

- The threats posed to human health and the environment be mitigated at the Site to address the likelihood that the oily sludge and contaminants in the ponds will migrate to the surrounding area, come into contact with animal populations, and impact the nearby Frank and Poet Drain.
- Other AOCs at the Site documented in the *Comprehensive Corrective Action and Remedial Consent Order* (MDEQ, 1999) be evaluated, including, but not limited to, the disposal areas and the previously detected deep groundwater contamination to determine the need for further investigation or remedial/removal action.

7. REFERENCES

40 Code of Federal Regulations 300.415(b)(2) of the National Oil and Hazardous Substances Contingency Plan (NCP).

Environmental Strategies Corporation. *Revised Interim Response Activity Work Plan, Tandem Mill Pond, DSC, Ltd., Gibraltar, Michigan.* August 2001.

Michigan Department of Environmental Quality and Michigan Department of Attorney General. *DSC Ltd., Comprehensive Corrective Action and Remedial Consent Order.* December 1999.

Weston Solutions, Inc. *Sampling and Analysis Plan for the Detroit Cold Rolling (DCR) Tandem Mill Ponds Site, Gibraltar, Wayne County, Michigan.* June 2007.

APPENDIX A

Figures

- 1 Site Location Map**
- 2 Site Layout Map**

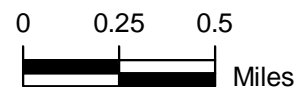
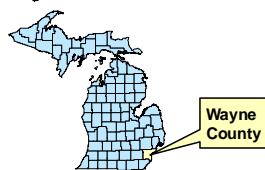


Figure 1



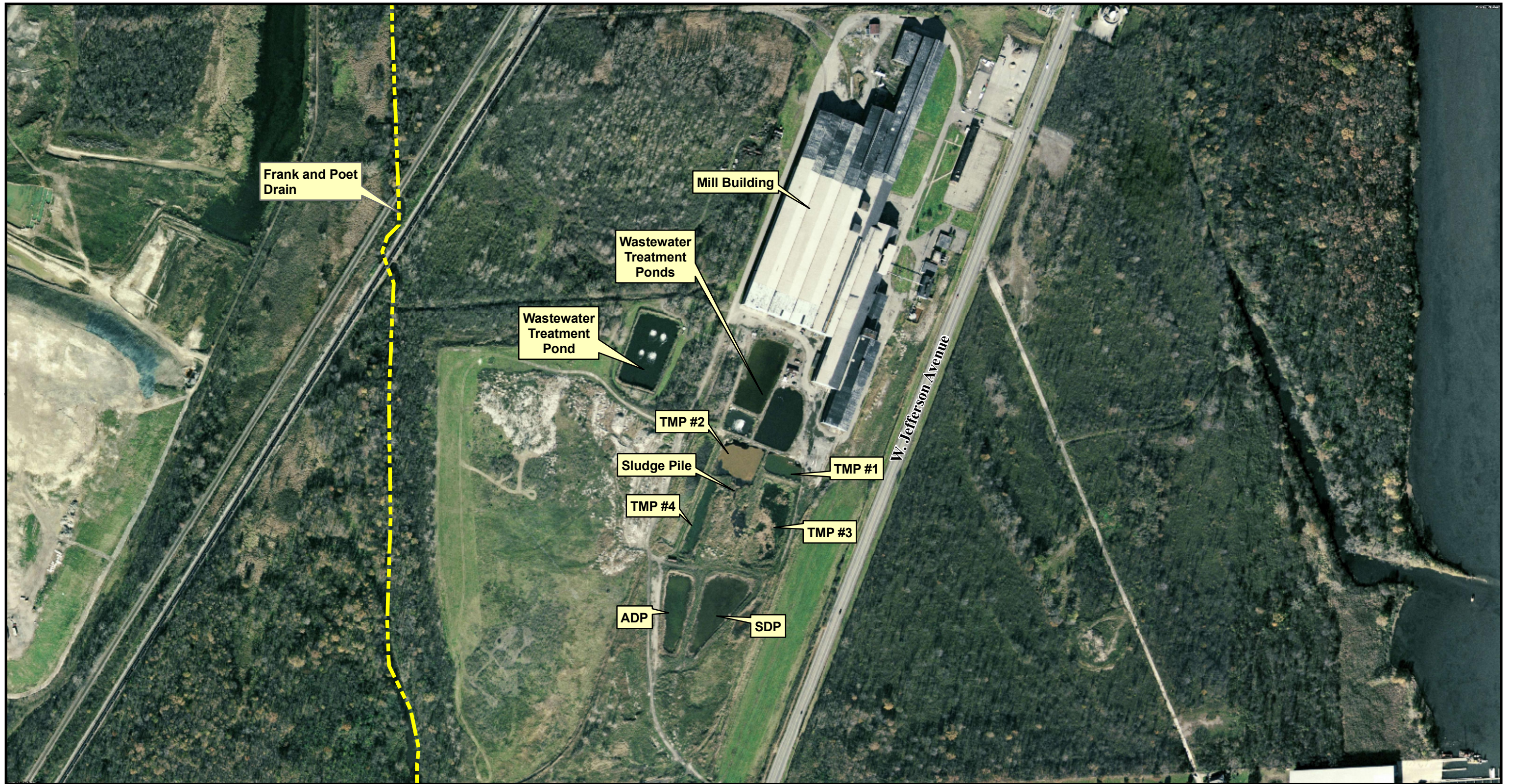
Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04

TDD No.: S05-0002-0706-009
DCN: 214-2A-ABKJ

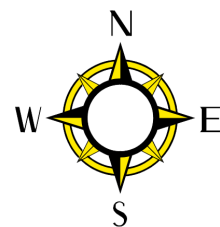
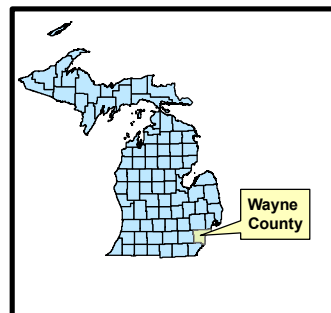


Prepared by:
WESTON SOLUTIONS, INC.
7800 W. Outer Drive, Suite 200
Detroit, MI

SITE LOCATION MAP
DETROIT COLD ROLLING SITE
GIBRALTAR, WAYNE CO., MI
DECEMBER 2007
Scale: 1" = 0.5 Miles



Source of Imagery: Airphoto USA 10-30-2006



0 200 400
Feet

Figure Key/Notes

- — — Approximate Drain Location
- TMP - Tandem Mill Pond
- ADP - Acid Dosing Pond
- SDP - Sludge Drying Pond



Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04

TDD No.: S05-0002-0706-009
DCN: 214-2A-ABKJ



Prepared by:
WESTON SOLUTIONS, INC.
7800 W. Outer Drive, Suite 200
Detroit, MI 48235

Figure 2

SITE LAYOUT MAP
DETROIT COLD ROLLING SITE
GIBRALTAR, WAYNE CO., MI
DECEMBER 2007
Scale: 1" = 400'

APPENDIX B

Previous Investigation Site Features Maps

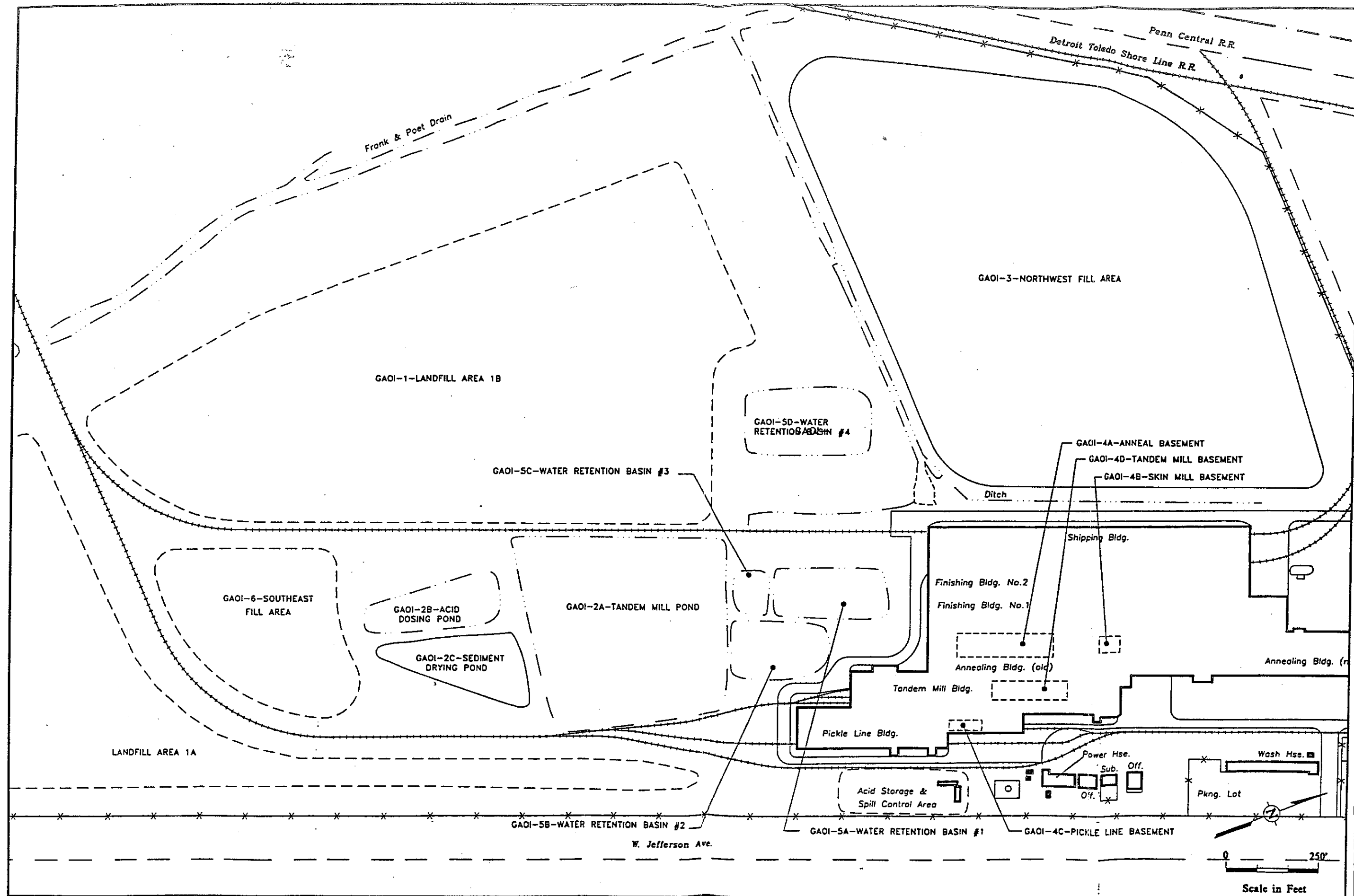
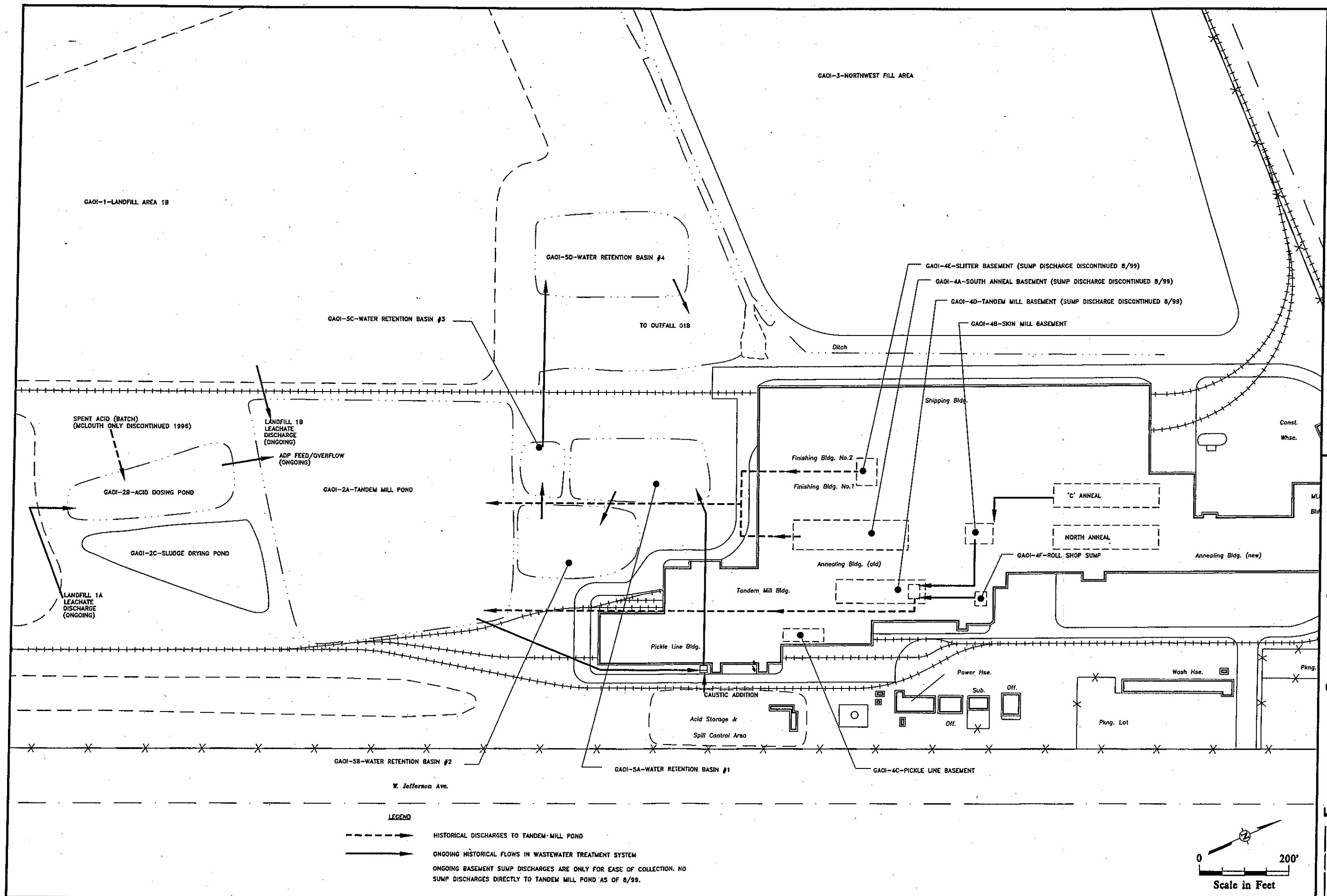
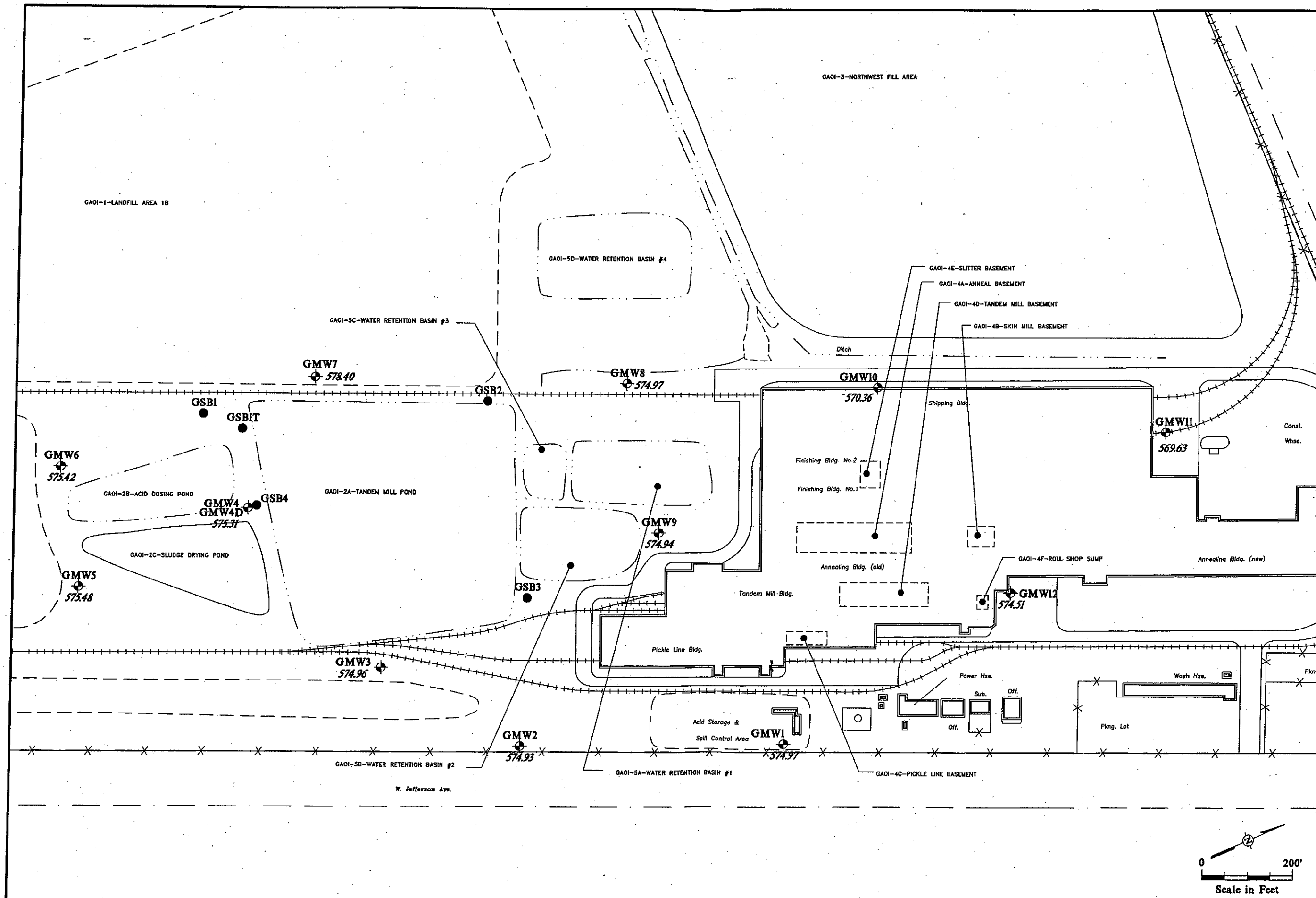


Figure 3
Areas of Interest - Gibraltar Facility
DSC Ltd.
Trenton, Michigan

ENVIRONMENTAL STRATEGIES CORPORATION
1911 Freedom Drive Suite 900
Reston, Virginia 20190
703-709-6500







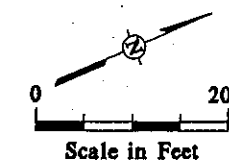
ENVIRONMENTAL STRATEGIES CORPORATION

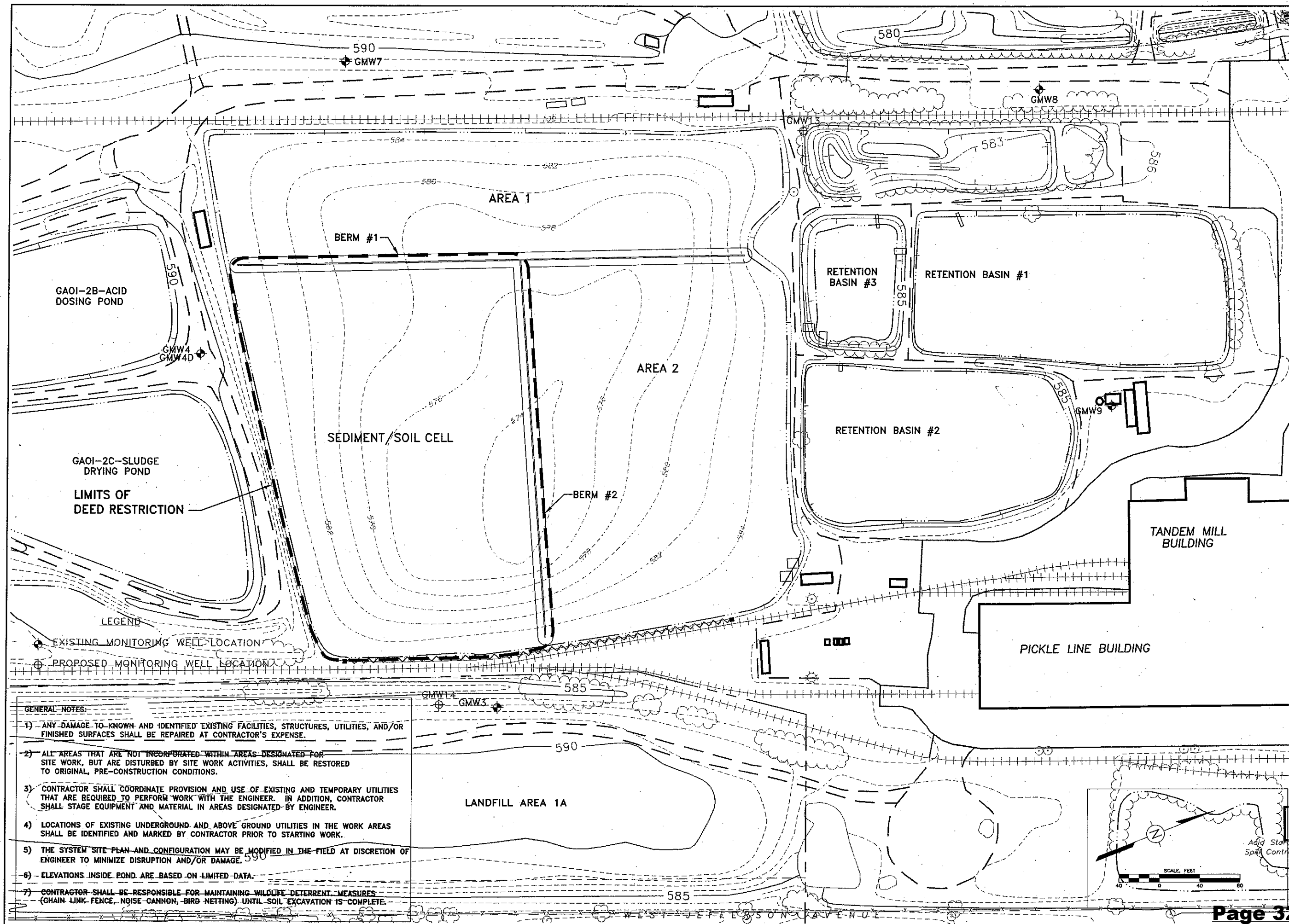
11911 Freedom Drive Suite 900
Reston, Virginia 20190
703-709-6500

Figure 5

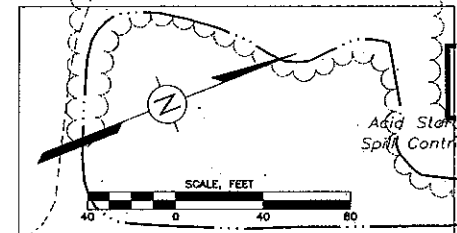
Potentiometric Surface in Limestone Bedrock (08/08/97)
Tandem Mill Pond Corrective Measures Work Plan
DSC Ltd.
Gilbraltar, Michigan

DSCG001.DWG





- GENERAL NOTES:
- 1) ANY DAMAGE TO KNOWN AND IDENTIFIED EXISTING FACILITIES, STRUCTURES, UTILITIES, AND/OR FINISHED SURFACES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
 - 2) ALL AREAS THAT ARE NOT INCORPORATED WITHIN AREAS DESIGNATED FOR SITE WORK, BUT ARE DISTURBED BY SITE WORK ACTIVITIES, SHALL BE RESTORED TO ORIGINAL, PRE-CONSTRUCTION CONDITIONS.
 - 3) CONTRACTOR SHALL COORDINATE PROVISION AND USE OF EXISTING AND TEMPORARY UTILITIES THAT ARE REQUIRED TO PERFORM WORK WITH THE ENGINEER. IN ADDITION, CONTRACTOR SHALL STAGE EQUIPMENT AND MATERIAL IN AREAS DESIGNATED BY ENGINEER.
 - 4) LOCATIONS OF EXISTING UNDERGROUND AND ABOVE GROUND UTILITIES IN THE WORK AREAS SHALL BE IDENTIFIED AND MARKED BY CONTRACTOR PRIOR TO STARTING WORK.
 - 5) THE SYSTEM SITE PLAN AND CONFIGURATION MAY BE MODIFIED IN THE FIELD AT DISCRETION OF ENGINEER TO MINIMIZE DISRUPTION AND/OR DAMAGE.
 - 6) ELEVATIONS INSIDE POND ARE BASED ON LIMITED DATA.
 - 7) CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WILDLIFE DETERRENT MEASURES (CHAIN LINK FENCE, NOISE CANNON, BIRD NETTING) UNTIL SOIL EXCAVATION IS COMPLETE.



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APPENDIX C
Photographic Documentation



Site: Detroit Cold Rolling

Photo Number: 1

Direction: North

Subject: Oily sludge near Tandem Mill Pond (TMP) #2

Date: June 20, 2007

Photographer: R. Green



Site: Detroit Cold Rolling

Photo Number: 2

Direction: Down

Subject: Animal tracks near TMP #2

Date: June 20, 2007

Photographer: R. Green



Site: Detroit Cold Rolling

Photo Number: 3

Direction: Down

Subject: Animal tracks in the oily sludge

Date: June 20, 2007

Photographer: A. Clark



Site: Detroit Cold Rolling

Photo Number: 4

Direction: South

Subject: TMP #1 with patches of oil sheen on surface (denoted by arrows)

Date: June 20, 2007

Photographer: R. Green

APPENDIX D

Tables

1a	Summary of PCB Detections in Sediment
1b	Summary of Metals Detections in Sediment
1c	Summary of SVOC Detections in Sediment
1d	Summary of VOC Detections in Sediment
2	Summary of Detected Contaminants in Sludge
3	Summary of TCLP Results for Sediment and Sludge
4	Summary of Detected Contaminants in Surface Water

APPENDIX D - TABLE 1A
DETROIT COLD ROLLING SITE
SUMMARY OF PCB DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Units	Sampling Location	Acid Dosing Pond		Acid Dosing Pond		Sludge Drying Pond		Sludge Drying Pond		
		Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		
		Sampling Date	June 20, 2007		June 20, 2007		June 20, 2007		June 20, 2007		
		Sample Series ID	DCR-SD-AD-01-062007		DCR-SD-AD-02-062007		DCR-SD-SD-01-062007		DCR-SD-SD-02-062007		
		Regulatory Criteria	Result	MDL	Result	MDL	Result	MDL	Result	MDL	
Polychlorinated Biphenyls (PCBs)											
TOTAL PCBs	µg/Kg	TSCA - 50,000	ND	< 460	ND	< 860	ND	< 370	290 J	< 290	
Aroclor 1248	µg/Kg		ND	< 460	ND	< 860	ND	< 370	ND	< 290	
Aroclor 1260	µg/Kg		ND	< 460	ND	< 860	ND	< 370	290 J	< 290	

Parameter	Units	Sampling Location	Tandem Mill Pond #1		Tandem Mill Pond #2		DUP-01	
		Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
		Sampling Date	June 21, 2007		June 21, 2007		June 21, 2007	
		Sample Series ID	DCR-SD-TMP1-01-062107		DCR-SD-TMP2-01-062107		DUP-01	
		Regulatory Criteria	Result	MDL	Result	MDL	Result	MDL
Polychlorinated Biphenyls (PCBs)								
TOTAL PCBs	µg/Kg	TSCA - 50,000	21,000	< 780	2,800	< 310	2,700	< 320
Aroclor 1248	µg/Kg		9,000	< 780	1,200	< 310	1,100	< 320
Aroclor 1260	µg/Kg		12,000	< 780	1,600	< 310	1,600	< 320

Parameter	Units	Sampling Location	Tandem Mill Pond #3		Tandem Mill Pond #4		Tandem Mill Pond #4	
		Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
		Sampling Date	June 21, 2007		June 20, 2007		June 20, 2007	
		Sample Series ID	DCR-SD-TMP3-01-062107		DCR-SD-TMP4-01-062007		DCR-SD-TMP4-02-062007	
		Regulatory Criteria	Result	MDL	Result	MDL	Result	MDL
Polychlorinated Biphenyls (PCBs)								
TOTAL PCBs	µg/Kg	TSCA - 50,000	ND	< 490	ND	< 350	ND	< 480
Aroclor 1248	µg/Kg		ND	< 490	ND	< 350	ND	< 480
Aroclor 1260	µg/Kg		ND	< 490	ND	< 350	ND	< 480

NOTES:

< – less than

µg/Kg – micrograms per kilogram.

ft – Foot

J – Analyte detected below MDL.

MDL – Method detection limit

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

TSCA – Toxic Substances Control Act

APPENDIX D - TABLE 1B
DETROIT COLD ROLLING SITE
SUMMARY OF METALS DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Acid Dosing Pond		Acid Dosing Pond		Sludge Drying Pond		Sludge Drying Pond	
	Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
	Sampling Date	June 20, 2007		June 20, 2007		June 20, 2007		June 20, 2007	
	Sample Series ID	DCR-SD-AD-01-062007		DCR-SD-AD-02-062007		DCR-SD-SD-01-062007		DCR-SD-SD-02-062007	
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Metals									
Arsenic	µg/Kg	70,000	< 1,800	25,000	< 4,000	31,000	< 1,500	80,000	< 1,300
Barium	µg/Kg	480,000	< 18,000	110,000	< 40,000	92,000	< 15,000	330,000	< 13,000
Cadmium	µg/Kg	2,400	< 360	2,500	< 800	570	< 310	1,000	< 260
Chromium	µg/Kg	150,000	< 36,000	150,000	< 80,000	100,000	< 31,000	810,000	< 26,000
Copper	µg/Kg	1,300,000	< 18,000	210,000	< 40,000	200,000	< 15,000	440,000	< 13,000
Lead	µg/Kg	1,100,000	< 18,000	88,000	< 40,000	45,000	< 15,000	140,000	< 13,000
Mercury	µg/Kg	43	< 29	48 J	< 60	46	< 23	78	< 21
Selenium	µg/Kg	700	< 360	4,300	< 800	ND	< 310	220 J	< 260
Silver	µg/Kg	210	< 200	300	< 280	150 J	< 150	360	< 140
Zinc	µg/Kg	2,300,000	< 18,000	1,300,000	< 40,000	800,000	< 15,000	1,200,000	< 13,000
Percent Moisture	% wt	56	< 1.0	77	< 1.0	46	< 1.0	31	< 1.0

NOTES:

< – less than

µg/Kg – micrograms per kilogram

ft – Foot

J – Analyte detected below MDL

MDL – Method detection limit

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

% wt – percentage of weight

APPENDIX D - TABLE 1B
DETROIT COLD ROLLING SITE
SUMMARY OF METALS DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Tandem Mill Pond #1		Tandem Mill Pond #2		DUP-01	
	Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
	Sampling Date	June 21, 2007		June 21, 2007		June 21, 2007	
	Sample Series ID	DCR-SD-TMP1-01-062107		DCR-SD-TMP2-01-062107		DUP-01	
	Units	Result	MDL	Result	MDL	Result	MDL
Metals							
Arsenic	µg/Kg	100,000	< 2,600	44,000	< 1,500	40,000	< 1,500
Barium	µg/Kg	780,000	< 26,000	320,000	< 15,000	330,000	< 15,000
Cadmium	µg/Kg	3,000	< 520	1,200	< 300	1,200	< 310
Chromium	µg/Kg	190,000	< 52,000	100,000	< 30,000	91,000	< 31,000
Copper	µg/Kg	1,300,000	< 26,000	810,000	< 15,000	670,000	< 15,000
Lead	µg/Kg	1,100,000	< 26,000	290,000	< 15,000	300,000	< 15,000
Mercury	µg/Kg	17 J	< 46	ND	< 26	41	< 25
Selenium	µg/Kg	1,100	< 520	630	< 300	370	< 310
Silver	µg/Kg	210 J	< 330	380	< 140	290	< 150
Zinc	µg/Kg	1,900,000	< 26,000	1,400,000	< 15,000	1,300,000	< 15,000
Percent Moisture	% wt	75	< 1.0	36	< 1.0	38	< 1.0

NOTES:

µg/Kg – micrograms per kilogram

ft – Foot

J – Analyte detected below MDL

MDL – Method detection limit

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

% wt – percentage of weight

APPENDIX D - TABLE 1B
DETROIT COLD ROLLING SITE
SUMMARY OF METALS DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Tandem Mill Pond #3		Tandem Mill Pond #4		Tandem Mill Pond #4	
	Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
	Sampling Date	June 21, 2007		June 20, 2007		June 20, 2007	
	Sample Series ID	DCR-SD-TMP3-01-062107		DCR-SD-TMP4-01-062007		DCR-SD-TMP4-02-062007	
	Units	Result	MDL	Result	MDL	Result	MDL
Metals							
Arsenic	µg/Kg	6,500	< 230	6,700	< 140	11,000	< 180
Barium	µg/Kg	69,000	< 2,300	62,000	< 1,400	100,000	< 1,800
Cadmium	µg/Kg	830	< 460	830	< 280	1,100	< 360
Chromium	µg/Kg	18,000	< 4,600	20,000	< 2,800	33,000	< 3,600
Copper	µg/Kg	21,000	< 2,300	20,000	< 1,400	42,000	< 1,800
Lead	µg/Kg	29,000	< 2,300	16,000	< 1,400	37,000	< 1,800
Mercury	µg/Kg	7.6 J	< 29	5.2 J	< 24	28	< 26
Selenium	µg/Kg	470	< 460	420	< 280	520	< 360
Silver	µg/Kg	58 J	< 150	68 J	< 150	72 J	< 210
Zinc	µg/Kg	82,000	< 2,300	72,000	< 1,400	130,000	< 1,800
Percent Moisture	% wt	59	< 1.0	43	< 1.0	58	< 1.0

NOTES:

µg/Kg – micrograms per kilogram

ft – Foot

J – Analyte detected below MDL

MDL – Method detection limit

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

% wt – percentage of weight

APPENDIX D - TABLE 1C
DETROIT COLD ROLLING SITE
SUMMARY OF SVOC DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Acid Dosing Pond		Acid Dosing Pond		Sludge Drying Pond		Sludge Drying Pond	
	Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
	Sampling Date	June 20, 2007		June 20, 2007		June 20, 2007		June 20, 2007	
	Sample Series ID	DCR-SD-AD-01-062007		DCR-SD-AD-02-062007		DCR-SD-SD-01-062007		DCR-SD-SD-02-062007	
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Semi-Volatile Organic Compounds (SVOCs)									
Benzo(a)anthracene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Benzo(b)fluoranthene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Benzo(k)fluoranthene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Benzo(g,h,i)perylene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Benzo(a)pyrene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Bis(2-ethylhexyl) phthalate	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
4-Chloro-3-methylphenol	µg/Kg	36,000	< 3,900	ND	< 360,000	ND	< 52,000	ND	< 240,000
Chrysene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Diethyl phthalate	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
2,4-Dimethylphenol	µg/Kg	820 J	< 2,200	ND	< 210,000	ND	< 30,000	39,000 J	< 140,000
Fluoranthene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Fluorene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Indeno(1,2,3-cd)pyrene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
2-Methylnaphthalene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Phenanthrene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Pyrene	µg/Kg	ND	< 2,200	ND	< 210,000	ND	< 30,000	ND	< 140,000
Total Organic Halides									
	µg/Kg - dry weight	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

< – less than

µg/Kg – micrograms per kilogram.

J – Analyte detected below MDL.

MDL – Method detection limit

NA – Not analyzed.

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

APPENDIX D - TABLE 1C
DETROIT COLD ROLLING SITE
SUMMARY OF SVOC DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Tandem Mill Pond #1		Tandem Mill Pond #2		DUP-01		Tandem Mill Pond #3	
	Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
	Sampling Date	June 21, 2007		June 21, 2007		June 21, 2007		June 21, 2007	
	Sample Series ID	DCR-SD-TMP1-01-062107		DCR-SD-TMP2-01-062107		DUP-01		DCR-SD-TMP3-01-062107	
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Semi-Volatile Organic Compounds (SVOCs)									
Benzo(a)anthracene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	320 J	< 390
Benzo(b)fluoranthene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	450 J	< 390
Benzo(k)fluoranthene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	130 J	< 390
Benzo(g,h,i)perylene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	200 J	< 390
Benzo(a)pyrene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	310 J	< 390
Bis(2-ethylhexyl) phthalate	µg/Kg	8,400 J	< 38,000	ND	< 300,000	ND	< 120,000	130 J	< 390
4-Chloro-3-methylphenol	µg/Kg	ND	< 66,000	ND	< 520,000	ND	< 200,000	ND	< 690
Chrysene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	280 J	< 390
Diethyl phthalate	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	ND	< 390
2,4-Dimethylphenol	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	ND	< 390
Fluoranthene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	580	< 390
Fluorene	µg/Kg	12,000 J	< 38,000	64,000 J	< 300,000	49,000 J	< 120,000	ND	< 390
Indeno(1,2,3-cd)pyrene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	160 J	< 390
2-Methylnaphthalene	µg/Kg	12,000 J	< 38,000	ND	< 300,000	ND	< 120,000	ND	< 390
Phenanthrene	µg/Kg	21,000 J	< 38,000	82,000 J	< 300,000	58,000 J	< 120,000	190 J	< 390
Pyrene	µg/Kg	ND	< 38,000	ND	< 300,000	ND	< 120,000	510	< 390
Total Organic Halides									
	µg/Kg - dry weight	240,000	<10,000	24,000	<10,000	NA	NA	NA	NA

NOTES:

< – less than

µg/Kg – micrograms per kilogram.

J – Analyte detected below MDL.

MDL – Method detection limit

NA – Not analyzed.

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

APPENDIX D - TABLE 1C
DETROIT COLD ROLLING SITE
SUMMARY OF SVOC DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Tandem Mill Pond #4		Tandem Mill Pond #4	
	Sampling Depth	0 - 0.5 ft		0 - 0.5 ft	
	Sampling Date	June 20, 2007		June 20, 2007	
	Sample Series ID	DCR-SD-TMP4-01-062007		DCR-SD-TMP4-02-062007	
	Units	Result	MDL	Result	MDL
Semi-Volatile Organic Compounds (SVOCs)					
Benzo(a)anthracene	µg/Kg	ND	< 14,000	210 J	< 380
Benzo(b)fluoranthene	µg/Kg	ND	< 14,000	340 J	< 380
Benzo(k)fluoranthene	µg/Kg	ND	< 14,000	150 J	< 380
Benzo(g,h,i)perylene	µg/Kg	ND	< 14,000	170 J	< 380
Benzo(a)pyrene	µg/Kg	ND	< 14,000	260 J	< 380
Bis(2-ethylhexyl) phthalate	µg/Kg	ND	< 14,000	210 J	< 380
4-Chloro-3-methylphenol	µg/Kg	ND	< 24,000	ND	< 670
Chrysene	µg/Kg	ND	< 14,000	260 J	< 380
Diethyl phthalate	µg/Kg	ND	< 14,000	74 J	< 380
2,4-Dimethylphenol	µg/Kg	ND	< 14,000	ND	< 380
Fluoranthene	µg/Kg	ND	< 14,000	390	< 380
Fluorene	µg/Kg	ND	< 14,000	ND	< 380
Indeno(1,2,3-cd)pyrene	µg/Kg	ND	< 14,000	140 J	< 380
2-Methylnaphthalene	µg/Kg	ND	< 14,000	ND	< 380
Phenanthrene	µg/Kg	ND	< 14,000	160 J	< 380
Pyrene	µg/Kg	ND	< 14,000	530	< 380
Total Organic Halides					
	µg/Kg - dry weight	NA	NA	NA	NA

NOTES:

< – less than

µg/Kg – micrograms per kilogram.

J – Analyte detected below MDL.

MDL – Method detection limit

NA – Not analyzed.

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

APPENDIX D- TABLE 1D
DETROIT COLD ROLLING SITE
SUMMARY OF VOC DETECTIONS IN SEDIMENT
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Tandem Mill Pond #1		Tandem Mill Pond #2	
	Sampling Depth	0 - 0.5 ft		0 - 0.5 ft	
	Sampling Date	June 21, 2007		June 21, 2007	
	Sample Series ID	DCR-SD-TMP1-01-062107		DCR-SD-TMP2-01-062107	
	Units	Result	MDL	Result	MDL
Volatile Organic Compounds (VOCs)					
Acetone	µg/Kg	520 J	< 9,800	310 J	< 3,900
Benzene	µg/Kg	220	< 120	ND	< 47
n-Butylbenzene	µg/Kg	320	< 200	62 J	< 78
sec-Butylbenzene	µg/Kg	100 J	< 200	ND	< 78
Chlorobenzene	µg/Kg	79 J	< 200	ND	< 78
1,2-Dichlorobenzene	µg/Kg	170 J	< 200	ND	< 78
1,1-Dichloroethane	µg/Kg	2,200	< 200	57 J	< 78
1,1-Dichloroethene	µg/Kg	75 J	< 200	ND	< 78
cis-1,2-Dichloroethene	µg/Kg	4,400	< 200	310	< 78
Dichloromethane	µg/Kg	150 J	< 980	60 J	< 390
Ethylbenzene	µg/Kg	860	< 200	140	< 78
Isopropylbenzene	µg/Kg	110 J	< 200	ND	< 78
p-Isopropyltoluene	µg/Kg	160 J	< 200	50 J	< 78
Methyl ethyl ketone	µg/Kg	310 J	< 980	130 J	< 390
Methyl isobutyl ketone	µg/Kg	230 J	< 2,000	ND	< 780
2-Methylnaphthalene	µg/Kg	2,000	< 980	440	< 390
Naphthalene	µg/Kg	990	< 980	220 J	< 390
n-Propylbenzene	µg/Kg	310	< 200	40 J	< 78
Tetrachloroethene	µg/Kg	260	< 200	290	< 78
Toluene	µg/Kg	3,700	< 200	160	< 78
1,2,3-Trichlorobenzene	µg/Kg	130 J	< 200	ND	< 78
1,2,4-Trichlorobenzene	µg/Kg	630 J	< 980	ND	< 390
Trichloroethene	µg/Kg	170 J	< 200	180	< 78
1,2,3-Trimethylbenzene	µg/Kg	650	< 200	99	< 78
1,2,4-Trimethylbenzene	µg/Kg	1,900	< 200	240	< 78
1,3,5-Trimethylbenzene	µg/Kg	560	< 200	74 J	< 78
Vinyl chloride	µg/Kg	680	< 160	ND	< 62
Xylenes, Total	µg/Kg	4,000	< 590	540	< 230
m,p-Xylene	µg/Kg	2,900	< 390	400	< 160
o-Xylene	µg/Kg	1,100	< 200	140	< 78

< – less than

µg/Kg – micrograms per kilogram.

ft – Foot

J – Analyte detected below MDL.

MDL – Method detection limit

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

APPENDIX D - TABLE 2
DETROIT COLD ROLLING SITE
SUMMARY OF DETECTED CONTAMINANTS IN SLUDGE
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Units	Sampling Location		Sludge Pile	
		Sampling Depth		Surface	
		Sampling Date		June 21, 2007	
		Sample Series ID		DCR-SLUDGE-01	
		Regulatory Criteria		Result	MDL
Metals					
Arsenic	µg/Kg	NA	NA	12,000	< 920
Barium	µg/Kg	NA	NA	110,000	< 9,200
Cadmium	µg/Kg	NA	NA	350	< 180
Chromium	µg/Kg	NA	NA	38,000	< 18,000
Copper	µg/Kg	NA	NA	65,000	< 9,200
Lead	µg/Kg	NA	NA	28,000	< 9,200
Selenium	µg/Kg	NA	NA	440	< 180
Silver	µg/Kg	NA	NA	340	< 110
Zinc	µg/Kg	NA	NA	280,000	< 9,200
Percent Moisture	% wt	NA	NA	12	< 1.0
Extractable Organic Halides					
	µg/g-dry	NA	NA	44,000	< 10,000
Volatile Organic Compounds (VOCs)					
Acetone	µg/Kg	NA	NA	390 J	< 2,800
Carbon disulfide	µg/Kg	NA	NA	97 J	< 280
cis-1,2-Dichloroethene	µg/Kg	NA	NA	26 J	< 57
Dichloromethane	µg/Kg	NA	NA	45 J	< 280
Ethylbenzene	µg/Kg	NA	NA	18 J	< 57
Methyl ethyl ketone	µg/Kg	NA	NA	180 J	< 280
2-Methylnaphthalene	µg/Kg	NA	NA	190 J	< 280
Naphthalene	µg/Kg	NA	NA	75 J	< 280
Tetrachloroethene	µg/Kg	NA	NA	110	< 57
Toluene	µg/Kg	NA	NA	51 J	< 57
Trichloroethene	µg/Kg	NA	NA	76	< 57
1,2,4-Trimethylbenzene	µg/Kg	NA	NA	35 J	< 57
Xylenes, Total	µg/Kg	NA	NA	64 J	< 170
m,p-Xylene	µg/Kg	NA	NA	64 J	< 110
Semi-Volatile Organic Compounds (SVOCs)					
Phenanthrene	µg/Kg	NA	NA	42,000 J	< 110,000
Polychlorinated Biphenyls (PCBs)					
TOTAL PCBs	µg/Kg	TSCA - 50,000		1,940	< 230
Aroclor 1248	µg/Kg			840	< 230
Aroclor 1260	µg/Kg			1,100	< 230

NOTES:

< – less than

% wt – Percent by weight

µg/g-dry – Micrograms per gram dry weight

µg/Kg – micrograms per kilogram

J – Analyte detected below MDL

MDL – Method detection limit

NA – Not applicable

ND – Not detected above MDL. The respective MDLs are listed to the right of the TSCA – Toxic Substances Control Act

APPENDIX D - TABLE 3
DETROIT COLD ROLLING SITE
SUMMARY OF TCLP RESULTS FOR SEDIMENT AND SLUDGE
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Units	Sampling Location	Acid Dosing Pond		Sludge Drying Pond		Tandem Mill Pond #1	
		Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
		Sampling Date	June 20, 2007		June 20, 2007		June 21, 2007	
		Sample Series ID	DCR-SD-AD-01-062007		DCR-SD-SD-02-062007		DCR-SD-TMP1-01-062107	
		Regulatory Criteria	Result	MDL	Result	MDL	Result	MDL
TCLP Metals								
Arsenic	mg/L	5.0	ND	0.010	ND	0.010	ND	0.010
Barium	mg/L	100	0.640	0.020	0.180	0.020	0.640	0.020
Cadmium	mg/L	1.0	ND	0.001	ND	0.001	ND	0.001
Chromium	mg/L	5.0	0.051	0.010	0.030	0.010	0.031	0.010
Copper	mg/L	---	0.018	0.004	0.024	0.004	0.023	0.004
Lead	mg/L	5.0	ND	0.010	0.019	0.010	0.076	0.010
Mercury	mg/L	0.2	ND	0.0002	ND	0.0002	ND	0.0002
Selenium	mg/L	1.0	ND	0.010	ND	0.010	ND	0.010
Silver	mg/L	5.0	ND	0.001	ND	0.001	0.0076	0.001
Zinc	mg/L	---	1.5	0.010	0.360	0.010	0.320	0.010

NOTES:

--- – no limit established

ft – Foot

MDL – method detection limit

mg/L – milligrams per liter

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

TCLP – toxicity characteristic leaching procedure

Regulatory Criteria as set forth in 40 Code of Federal

Regulation (CFR) Part 261 Subpart C - Characteristics

APPENDIX D - TABLE 3
DETROIT COLD ROLLING SITE
SUMMARY OF TCLP RESULTS FOR SEDIMENT AND SLUDGE
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Units	Sampling Location	Acid Dosing Pond		Sludge Drying Pond		Tandem Mill Pond #2		Sludge Pile	
		Sampling Depth	0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		surface	
		Sampling Date	June 20, 2007		June 20, 2007		June 21, 2007		June 21, 2007	
		Sample Series ID	DCR-SD-AD-02-062007		DCR-SD-SD-02-062007		DCR-SD-TMP2-01-062107		DCR-SLUDGE-01	
		Regulatory Criteria	Result	MDL	Result	MDL	Result	MDL	Result	MDL
TCLP SVOCs										
2,4-Dinitrotoluene	mg/L	0.13	ND	0.025	ND	0.025	ND	0.025	ND	0.025
Hexachlorobenzene	mg/L	0.13	ND	0.025	ND	0.025	ND	0.025	ND	0.025
Hexachlorobutadiene	mg/L	0.5	ND	0.025	ND	0.025	ND	0.025	ND	0.025
Hexachloroethane	mg/L	3.0	ND	0.025	ND	0.025	ND	0.025	ND	0.025
Methylphenols	mg/L	200	ND	0.025	ND	0.025	ND	0.025	0.038	0.025
2-Methylphenol	mg/L	200	ND	0.100	ND	0.100	ND	0.100	ND	0.100
3/4 Methylphenol	mg/L	200	ND	0.025	ND	0.025	ND	0.025	0.038	0.025
Nitrobenzene	mg/L	2.0	ND	0.025	ND	0.025	ND	0.025	ND	0.025
Pentachlorophenol	mg/L	100	ND	0.025	ND	0.025	ND	0.025	ND	0.025
Pyridine	mg/L	5.0	ND	0.025	ND	0.025	ND	0.025	ND	0.025
2,4,5-Trichlorophenol	mg/L	400	ND	0.025	ND	0.025	ND	0.025	ND	0.025
2,4,6-Trichlorophenol	mg/L	2.0	ND	0.025	ND	0.025	ND	0.025	ND	0.025

NOTES:

--- -- no limit established
ft – Foot
MDL – method detection limit
mg/L – milligrams per liter

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.
SVOC – semivolatile organic compound
TCLP – toxicity characteristic leaching procedure
Regulatory Criteria as set forth in 40 Code of Federal Regulation (CFR) Part 261 Subpart C - Characteristics

APPENDIX D - TABLE 4
DETROIT COLD ROLLING SITE
SUMMARY OF DETECTED CONTAMINANTS IN SURFACE WATER
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

	Sampling Location	Tandem Mill Pond #1		Tandem Mill Pond #2		DUP-01-SW		Tandem Mill Pond #3	
	Sampling Depth	Surface		Surface		Surface		Surface	
	Sampling Date	June 21, 2007		June 21, 2007		June 21, 2007		June 21, 2007	
	Sample Series ID	DCR-SW-TMP1-062107		DCR-SW-TMP2-062107		DUP-01-SW		DCR-SW-TMP3-01-062107	
Parameter	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Metals and pH									
Arsenic	µg/L	14	< 5.0	9.9	< 5.0	9.8	< 5.0	2.4 J	< 5.0
Barium	µg/L	46	< 10	34	< 10	35	< 10	56	< 10
Cadmium	µg/L	7.7	< 0.5	0.34 J	< 0.5	ND	< 0.5	ND	< 0.5
Chromium	µg/L	6.7	< 5.0	1.5 J	< 5.0	0.81 J	< 5.0	1.5 J	< 5.0
Copper	µg/L	9.2	< 2.0	2.5	< 2.0	2.0	< 2.0	1.5 J	< 2.0
Lead	µg/L	7.9	< 1.0	0.42 J	< 1.0	ND	< 1.0	ND	< 1.0
Selenium	µg/L	12	< 5.0	3.6 J	< 5.0	3.4 J	< 5.0	3.4 J	< 5.0
Silver	µg/L	4.4	< 0.3	3.3	< 0.3	1.3	< 0.3	5.2	< 0.3
Zinc	µg/L	18	< 5.0	13	< 5.0	9.9	< 5.0	9.3	< 5.0
pH	standard units	7.4 H	0	7.5 H	0	7.7 H	0	7.8 H	0

NOTES:

< – Less than

µg/L – micrograms per liter

ft – Foot

H – Holding times for preparation or analysis exceeded

J – Analyte detected below MDL

MDL – Method detection limit

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.

APPENDIX D - TABLE 4
DETROIT COLD ROLLING SITE
SUMMARY OF DETECTED CONTAMINANTS IN SURFACE WATER
GIBRALTER, WAYNE COUNTY, MICHIGAN
JUNE 2007

Parameter	Sampling Location	Tandem Mill Pond #4		Acid Dosing Pond		Sludge Drying Pond	
	Sampling Depth	Surface		Surface		Surface	
	Sampling Date	June 20, 2007		June 20, 2007		June 20, 2007	
	Sample Series ID	DCR-SW-TMP4-01-062007		DCR-SW-AD-01-062007		DCR-SW-SD-01-062007	
	Units	Result	MDL	Result	MDL	Result	MDL
Metals and pH							
Arsenic	µg/L	2.0 J	< 5.0	0.93 J	< 5.0	0.82 J	< 5.0
Barium	µg/L	68	< 10	39	< 10	60	< 10
Cadmium	µg/L	ND	< 0.5	ND	< 0.5	ND	< 0.5
Chromium	µg/L	7.5	< 5.0	1.3 J	< 5.0	ND	< 5.0
Copper	µg/L	2.2	< 2.0	1.4 J	< 2.0	4.8	< 2.0
Lead	µg/L	ND	< 1.0	ND	< 1.0	ND	< 1.0
Selenium	µg/L	1.9 J	< 5.0	1.9 J	< 5.0	1.1 J	< 5.0
Silver	µg/L	2.7	< 0.3	3.5	< 0.3	1.6	< 0.3
Zinc	µg/L	6.5	< 5.0	9.8	< 5.0	11	< 5.0
pH	standard units	7.8 H	0	8.5 H	0	7.9 H	0

NOTES:

< – Less than

µg/L – micrograms per liter

ft – Foot

H – Holding times for preparation or analysis exceeded

J – Analyte detected below MDL

MDL – Method detection limit

ND – Not detected above MDL. The respective MDLs are listed to the right of the ND designation.